137 Oaks and hornbeams grow plentifully in the zone of transition between forest and the steppe while the pine prefers sandy river valleys. Vegetation in the mountains corresponds to that in western surroundings. The vast mountain pastures deserve special mention. On the coast of the Crimea and the Caucasus we find the buttertree, the cypress, the stone pine, the laurel, opuntias, agaves and other Mediterranean plants.

• 136 Prevalent animal species vary only slightly from those found in neighboring countries in the west. Worthy of mention are wild-cat, ermine, and bison in the forest region, bear, lynx and wild-cat in the Carpathians. In the Yaila mountains there are vultures. The Caucasus has the greatest variety of animals. It is still possible there to hunt ibex, jackals and ure-ox. On the southern slopes there are even panthers. Numerous rodents live in the steppes. The ure-ox, the beaver and the marmot are dying out.

3. Population.

a) Density

161 In 1939 the average density of the population in Ukraine was 68 persons per sq. kilometer. In the central forest-steppe zone, one of the most thickly populated agrarian areas in Europe, 80—120 people live on a sq. kilometer, between the Syan and Kursk. Northern Ukraine with its lighter soil is much more thinly populated; here the average density amounts to 40—60 persons per sq. kilometer, and in Polesya this figure even falls below 25. The density of the population in Southern Ukraine corresponds roughly to that in the north, though the Donets basin is an isolated area of dense population. The Caucasus foothills, a country with a climate at least as favorable as that of Central Ukraine is only two-thirds as densely populated, as it was colonised late. The mountains are thinly populated.

162 361 The majority of the Ukrainian people live in villages; 29 % live in towns and 10 % in cities with more than 100 000 inhabitants; trade and industry are not intensively developed; we are struck by the many towns that have grown up at the frontiers between the various natural areas; there are 60 bet-

9: Prothero G-4 (no date) 1920 RD1 Ukraine RD1

planting, principally of sand-willows and pines, the main object being to arrest the movement of drift-sand. 137

The principal Ukraine timber trees are oak, maple, elm, ash, willow, aspen, lime, and wych-elm.

The art of forestry would appear to be almost entirely neglected. Systematic replanting of timber is hardly known, and wholesale destruction of woods on the river banks has had disastrous results in the splitting up of the channels. The lime is frequently denuded of its bark to make bast, the tree subsequently perishing as it stands. 313

(3) Fisheries

The fisheries of the Ukraine can be divided into three classes: those of the upper reaches of the rivers, those of the lower reaches and the lagoons at the mouths, and those of the Black Sea and the Azov Sea. 228

In the upper reaches of the principal rivers, fishing can scarcely be called an industry, being carried on by individuals mainly for their personal needs; the stock of fish is everywhere decreasing at a regrettable rate, and much alarm is caused by this depletion.

The fisheries of the lower reaches of the Dnieper, Dniester, and Southern Bug have considerable value. The principal fish taken are sturgeon, of which there are several varieties, carp, bream, fresh-water herring, and sander. The fisheries are the property of the riparian owners, who let them to syndicates. The State owns a considerable stretch on the Bug from Nikolaev to Novaya Odessa. The fishing seasons are from February to April and in the autumn, when the fish revisit the rivers to spawn. At this time they are taken for the roe, from which caviare of various qualities is made. 228 136

In the Black Sea the principal fish are mackerel, anchovy, and flounder. The fishing here is also carried on by syndicates, and is done close to shore with rather primitive appliances. The bulk of the fish is preserved

9: Prothero G-4 (no date) 1920 RD1 Ukraine RD1

either by salting, smoking, or sun-curing. Fish-curing is carried on in factories at Odessa and Ochakov.

The fisheries in the Azov Sea are important, but the principal grounds are not in Ukrainian territory, those which lie within its limits being of insignificant value.

(4) Minerals

(a) *Natural Resources*

The principal mineral resources of the Ukraine are coal, iron, and salt.

The *coal* is all in one large field usually known as the Donets basin, which extends from west to east for a distance of 300 miles. It is considered the largest coalfield in Europe, but owing to peculiarities of the geological strata it is split up into several areas with varying qualities of coal. Roughly the flame coals are on the western end of the field, the coking and semi-anthracite coals in the centre, and the anthracite in the east, though coking coals are also found towards the north-east corner. Very little pure anthracite is mined on Ukraine territory, as the beds are mainly in the Don Cossack district. Throughout the field the seams vary much in thickness. Some are too thin to be worked. The average thickness of those worked is 21 to 35 in.; seams of 5 ft. are moderately common, and the maximum thickness is 7 ft.

The output of coal from the Donets field is variable. This is chiefly due to labour difficulties, which arise in unexpected ways. Nevertheless if the figures of several years are considered together, a great increase is shown, and new pits are being opened every year. The average production for the years 1908 to 1912 was over 14,000,000 tons, the proportion of bituminous coal to anthracite being as 8 to 1. The figures include the whole field, as separate statistics for the portion over the Don Cossack border are not issued.

Iron.—The Ukraine is fortunate in having in close proximity to its coalfield a district rich in iron ore. The deposit, which is of excellent quality and easily worked,

101 swamps of Polesia. Faggot and fascine paths lead
133 you from village to village, from settlement to settlement. If you visit this swamp land which extends almost to the central Russian plain and is about at large as Hungary including Carpatho-Ukraine, in spring during the time of thaws or during the floods of early summer, people will row you in a boat to their neighbor's. For at these times the rivers creeping in countless bends through lakes, ponds and tributaries of this country, which is only 170 meters above sea level, flood their banks for many weeks, even months. This landscape is unutterably sad, and, it has deprived of laughter the few people it scantily nourishes with fish, potatoes and oats. Polesia is a land of spooks
[136] without equal, where, across the bog through which
[137] elk and bison, sure-footed, make their way, there rises the "pillared hall of centuries-old oaks, lindens, aspens, ash trees, firs, spruces and pines." /19/ The sun rarely shines into this twilight where at night there are mysterious will-o'-the-wisps in this world of mold. Deathly silence prevails in this accursed land which even the birds avoid. You are standing on the border of the Soviet Union.

133 Descending the navigable Pripyat, and traveling eastward halfway to the central Russian plain, you reach, friend, the Dniepr, which comes from the north. You have come to the sacred river of the Ukrainians. They chant its praises in countless songs. This third largest river of Europe flows 2100 kilometers until, exhausted, it empties into the Black Sea. If it happens to be flood time, you will not be able to see from one bank to the other, the river rises to such an extent. It gets to be six, eight, even ten kilometers wide. Herodotus already compared it with the Nile.

505 If you now sail south[1] on a Dniepr steamer you will reach Kiyev. Do not be surprised at the numerous vessels which you meet on the river, for

[1] [From the confluence of the Dniepr and the Pripyat - Analyst]

C
C21 their share of spoils had not yet wandered into
182 the hands of shopkeepers and innkeepers. There was something very tempting about these universal drinking bouts. The sech did not consist of a bunch of drunkards who were bent on drowning their sorrow in the bottle; it was a jolly, carefree company of men who lived from day to day in a mad delirium of joy. Everyone who came there forgot and threw off everything that ordinarily concerned him; for he enthusiastically gave himself up to carefree camaraderie with people, like himself, who had neither parents nor a home nor a family..., who did not own a thing except the free breath of heaven and an indestructible serenity of spirit."
C No woman was permitted to enter the sech.

101 Besides the Zaporogian Cossacks (Zaporogian
182 comes from "za porogamy" meaning "beyond the rapids") on the fortified island in the Dniepr, there were free Cossacks who lived on their farms scattered throughout the country, and these were by far in the majority. But in case of war or in general insurrection they appeared mounted and completely equipped at the place of assembly within a few days. When the campaign was ended, the warrior and farmer, whichever he chose to be, returned "to his meadows and fields /46/or to the banks of the Dniepr, spent his time fishing and trading, brewed beer and spirits and lived as a free Cossack...There was not a trade that he was not familiar with. He distilled spirits, built wagons, ground powder, was a forger and locksmith, and was above all adept at loafing, drinking and carousing as only the Slav knows how to be. No matter what he did, he was always in his element."

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•136 This description of the peaceable side of
C
136 Cossack life would be incomplete without a contemporary account of the hunting grounds of the Cossacks. "The Ukraine is so rich in wild game that avrochs, wild horses and deer are hunted only for their skins. Of their meat only the most suc-

culent ribs and loins are used, everything else is discarded. The female deer and wild boar are not hunted at all. In winter roes and wild boars wander in large herds from the steppes into the forests, and in summer they return to the steppes. ...The bird world is so marvelously rich that in spring vast quantities of eggs and fledglings of wild ducks, wild geese, cranes and swans are gathered in. In spring such large schools of fish swim up the river that a spear thrown into the water comes to rest upright." (28)

28. Rudnytskyj: Ukrainians, the Country and the People, page 123.

This, then, was the kingdom of Chmielnicki, the Emperor of the Cossacks. As soon as the hordes of the Pecheneg and Polovtsi had driven the agricultural Ukrainian population out of the fertile South Ukrainian territory with scimitars and with fire, the first gangs of freebooters, fishermen and hunters from among the homeless banded together. On one of the more inaccessible islands of the Danube Delta a troop of no less than 6000 exiled Ukrainian farmers settled. There could scarcely be any question of their clinging to their native soil in regions where the farm population was obliged to withdraw into certain areas of swamps and virgin forests to avoid the constantly roving Asiatic nomads. For generations /47/ peasants ventured out into the open field only at the time of sowing and reaping. And in spite of that, millions of men, women and children fell victims to the "organized slave hunts" of these hordes.

Around the middle of the sixteenth century there developed small and later large militarily organized bands made up of homeless aristocratic and bourgeois refugees and the peasants who had escaped serfdom. As a result of a constant influx and integration, a regular army was formed which,